

APPENDIX 4 – STATE CERTIFICATIONS AND ASSURANCES



**WASHINGTON STATE DEPARTMENT OF
TRANSPORTATION
ADMINISTRATIVE SERVICES CONTRACTS OFFICE**

STATE CERTIFICATIONS AND ASSURANCES

I/we make the following certifications and assurances as a required element of the Proposal to which it is attached, understanding that the truthfulness of the facts affirmed here and the continuing compliance with these requirements are conditions precedent to the award or continuation of the related Contract(s):

The prices and/or data have been determined independently, without consultation, communication, or Contract with others for the purpose of restricting competition, as to any matter relating to such prices with any other Vendor. However, I/we may freely join with other persons or organizations for the purpose of presenting a single Proposal.

The attached Proposal is a firm offer for a period of one hundred twenty (120) days following receipt, and it may be accepted by Washington State Department of Transportation (WSDOT) without further negotiation at any time within the one hundred twenty 120-day period. In the case of protest, the protester's Proposal remains valid until the protest is resolved or the one hundred twenty (120) day offer period expires, whichever is later.

In preparing this Proposal, I/we have not been assisted by any current or former employee of the state of Washington whose duties relate (or did relate) to this RFP or prospective Contract, and who was assisting in other than his or her official, public capacity. Neither does such a person nor any member of his or her immediate family have any financial interest in the outcome of this Proposal bid. (Any exceptions to these assurances are described in full detail on a separate page and attached to this document.)

I/we understand that WSDOT will not reimburse me/us for any costs incurred in the preparation of this Proposal. All Proposals become the property of WSDOT, and I/we claim no proprietary right to the ideas, writings, items, or samples. Submission of the attached Response constitutes Contract to abide by the procedures described in the RFP document.

No attempt has been made or will be made by the Vendor to induce any other person or Vendor to submit or not to submit a Proposal for the purpose of restricting competition.

Signature/Title

Vendor Name

Printed Name

Date

APPENDIX 5 – CERTIFICATION REGARDING DEBARMENT AND SUSPENSION



**WASHINGTON STATE DEPARTMENT OF
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**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER
RESPONSIBILITY MATTERS-PRIMARY COVERED TRANSACTIONS**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 13 CFR Part 145. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211).

Unless otherwise permitted by law, any person or entity that is debarred, suspended or voluntarily excluded may not participate in any federally assisted project, either as a participant or as a principal, during the period of debarment, suspension, or voluntary exclusion. To meet this requirement, a certification process has been established by 49 C.F.R. Part 29.

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded by any Federal department or agency;
 - (b) Have not within a three- year period preceding this *[contract or proposal]* been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the defenses enumerated in paragraph (1) (b) of this certification;
 - (d) Have not within a three-year period preceding this *[contract or proposal]* had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statement in this certification, such prospective participant shall attach an explanation to this *[contract or proposal]*.

WSDOT *[Contract or Acquisition]* No.

Signature/Authorized Certifying Official

Date Signed

Name and Title

Vendor Name

APPENDIX 6 – EXCEPTIONS TO CONTRACT



**WASHINGTON STATE DEPARTMENT OF
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EXCEPTIONS TO CONTRACT

Vendor may request exceptions to specific terms of the Contract. WSDOT will review requested exceptions and accept or reject the same at its sole discretion but **ONLY MINOR MODIFICATIONS AND/OR ADDITIONS** will be open to exceptions.

DIRECTIONS: In the event Vendor desires to take exception to a Contract term(s), Vendor shall submit the following information in the table format provided below:

- (1) State the page number of the Contract.
- (2) State the Contract paragraph in full.
- (3) State the proposed revised paragraph verbiage in full.
- (4) State for each submittal one of the following two categories:
 - **Mandatory:** A Vendor submitting a mandatory exception, modification, and/or addition, is declaring that the change is a requirement within its Proposal. If the change is not acceptable to WSDOT, then the Vendor does not want its Proposal to be considered or evaluated by WSDOT; or
 - **Proposed:** A Vendor submitting a proposed exception, modification, and/or addition, is asking that WSDOT consider it, and if acceptable to WSDOT, include the proposed wording in any resulting Contract.

In cases, where an item is labeled Mandatory, Vendor indicates that the language in the Contract represents a term or condition that Vendor cannot accept exactly as written. Vendor offers in good faith for each a direct alternative, or reference to an alternative, from which negotiation of the point may start.

Contract/RFP Page #	Section Number	Section Provision Reiterated in Whole	Exception/Alternative/ Commentary State the proposed revised paragraph verbiage in full	Mandatory or Proposed

APPENDIX 7 - REFERENCES



**WASHINGTON STATE DEPARTMENT OF
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REFERENCES

Vendor		
Project Title		
Reference related to:	<input type="checkbox"/> Vendor <input type="checkbox"/> Proposed Subcontractor	
Subcontractor (if applicable)		
Project Role Performed	<input type="checkbox"/> Vendor <input type="checkbox"/> Subcontractor	
Brief description of work performed		
Contact Name and Title		
Contact Phone/Cell Number(s)		
Contact Email address		
Total Contract Value to the Vendor		
Number of claims and/or disputes by either party		
Performance Measure	Performance Results	

By signing this form, Vendor acknowledges and gives WSDOT permission to contact the Reference listed above at WSDOT's convenience.

Signature

Date

Printed Name

Title

APPENDIX 8 – COMPLIANCE MATRIX



**WASHINGTON STATE DEPARTMENT OF
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COMPLIANCE MATRIX INSTRUCTIONS

As part of the submitted proposal, the Vendor shall complete this table to indicate:

1. the degree to which their proposed solution complies with the requirements of this Request for Proposals (RFP), and
2. the effort required to achieve compliance.

For Compliance, the Vendor shall mark a section with “Yes” if the Vendor’s proposed solution meets each and every requirement contained within that section as written in its entirety without any modifications, limitations or exclusions; the Vendor shall mark a section with “No” if the Vendor’s proposed solution does NOT meet each and every requirement contained within that section as written in its entirety; and the Vendor shall mark a section with “Exceeds” if the Vendor’s proposed solution exceeds one or more of the requirements contained within that section. WSDOT is not obligated to accept the proposed modification(s), and WSDOT reserves the right to provide other proposing Vendors the opportunity to modify their proposals based on the modification(s).

For Effort Required, the Vendor shall identify if the functionality related to the requirements contained within each section is existing functionality (Existing), will be modifications of existing functionality (Modify), or is functionality that needs to be developed for this Project (Develop).

Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
Appendix 2 – Scope of Work								
1	Program Overview							
1.1	Background							
1.2	Program Overview							
1.3	Vendor Scope of Work Overview							
1.4	Tolling Commencement Milestone							
1.5	Summary of Major Deliverables Required							
1.6	Roles and Responsibilities							
1.6.1	Vendor Provided Services							
1.6.2	WSDOT Provided Services							
1.6.3	Other Entities							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
2	Legal and Regulatory Requirements							
2.1	Introduction							
2.2	Requirements							
2.2.1	State of Washington							
2.2.2	Federal							
3	Business Rules							
4	Program Management							
4.1	Introduction							
4.2	Requirements							
4.2.1	Program Management Plan							
4.2.1.1	Vendor Organization							
4.2.1.2	Key Program Staff Directory							
4.2.1.3	Program Delivery Approach							
4.2.1.4	Risks Assessment							
4.2.2	Schedule							
4.2.2.1	Initial Schedule							
4.2.2.2	Schedule Updates							
4.2.3	Kickoff Meeting							
4.2.4	Workshops and Working Sessions							
4.2.5	Weekly Status Meetings							
4.2.6	Agendas and Meeting Minutes							
4.2.7	Monthly Progress Reports							
4.2.8	Deliverables							
5	Vendor Personnel Requirements							
5.1	Introduction							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
5.2	Requirements							
5.2.1	General							
5.2.2	Key Program Staff							
6	Quality Management							
6.1	Introduction							
6.2	Requirements							
6.2.1	Quality Management Plan							
6.2.2	Document Delivery and Control							
6.2.3	Record Keeping							
6.2.4	Document Availability							
6.2.5	Access to Facilities							
7	Integration and Implementation							
7.1	Introduction							
7.2	Requirements							
7.2.1	General							
7.2.2	Requirements and Business Rules Verification							
7.2.3	CSC Requirements Trace Document							
7.2.4	Configuration Workshops							
7.2.5	Software Enhancement Design							
7.2.6	System Network Design							
7.2.7	Systems Integration Plan							
7.2.8	System to System Interface Requirements							
7.2.9	Test Plan							
7.2.10	System Documentation							
7.2.11	System Installation and Integration							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
7.2.12	Initiation of Revenue Operations Plan							
8	Testing							
8.1	Introduction							
8.2	Requirements							
8.2.1	General							
8.2.2	Test Plan							
8.2.3	Test Procedures							
8.2.4	Test Reports							
8.2.5	Deficiencies							
8.2.6	Factory Acceptance Testing							
8.2.7	Integration and Commissioning Testing							
8.2.8	Acceptance Testing							
8.2.9	Acceptance of the System and Services							
9	Migration of Data from TNB Customer Service Center							
9.1	Introduction							
9.2	Requirements							
9.2.1	Approach							
9.2.2	Timing							
9.2.3	Scope							
9.2.4	Data Mapping							
9.2.5	Data Migration Results							
10	Automated System Functionality							
10.1	Introduction							
10.2	Requirements							
10.2.1	General							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
10.2.2	Computer System Architecture							
10.2.3	System Operations Environment							
10.2.4	System Hardware and Equipment							
10.2.5	External Interface Support							
10.2.6	Financial Accounting System Requirements							
10.2.7	Toll Rates							
10.2.8	Databases							
10.2.9	User Interface							
10.2.10	Search Functionality							
10.2.11	Data Protection and Integrity							
10.2.12	Communications							
10.2.13	Time Synchronization							
10.2.14	Upgrades and Enhancements							
11	Language Support Requirements							
11.1	Introduction							
11.2	Requirements							
11.2.1	Printed Materials							
11.2.2	Call Center Voice Service							
11.2.3	Automated Customer Service Phone Services							
11.2.4	Telecommunications Device for the Deaf (TDD)							
11.2.5	Internet							
12	Section Not Used							
13	Account Establishment							
13.1	Introduction							
13.2	Requirements							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
13.2.1	Startup Period Goals and Incentives							
13.2.2	Methods of Service							
13.2.3	Customer Toll Account Record							
13.2.4	Discount Programs							
13.2.5	Outcomes							
13.2.5.1	Process Payments							
13.2.5.2	Transponder Order							
13.2.5.3	Send Welcome Email							
13.2.5.4	Conversion to Registered Transponder Account Notice							
14	Account Management							
14.1	Introduction							
14.2	Requirements							
14.2.1	Automated/System Initiated Services							
14.2.1.1	Statements							
14.2.1.2	Account Status Alerts							
14.2.1.3	Negative Balances							
14.2.1.4	Inactive Accounts							
14.2.2	Customer Self Service/Web-Based Services							
14.2.3	Commercial Transponder Accounts							
14.2.4	Customer Requested Services							
15	Transponder Management							
15.1	Introduction							
15.2	Requirements							
15.2.1	Transponder Procurement							
15.2.2	Transponder Inventory							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
15.2.3	Order Fulfillment and Distributions							
15.2.4	Transponder Performance Monitoring							
16	Toll Transaction Receipt and Validation							
16.1	Introduction							
16.2	Requirements							
16.2.1	Transaction Receipt							
16.2.2	Transaction Validation							
17	Toll Transaction Processing							
17.1	Introduction							
17.2	Requirements							
17.2.1	General Requirements							
17.2.2	Toll Rates							
17.2.3	Transponder Transactions							
17.2.4	Photo-Enforced Toll Transactions							
17.2.5	Acquire Name and Address							
17.2.6	Generate, Print and Mail Photo-Enforced Toll Bills							
17.2.7	Generate, Print and Mail Notices of Infraction							
18	Complaint Tracking and Resolution							
18.1	Introduction							
18.2	Requirements							
19	Dispute and Adjudication Support							
19.1	Introduction							
19.2	Requirements							
19.2.1	Disputes							
19.2.2	Adjudication Support							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
20	Customer Service Storefront Services							
20.1	Introduction							
20.2	Requirements							
20.2.1	General							
20.2.2	Services							
21	Customer Service Internet Services							
21.1	Introduction							
21.2	Requirements							
21.2.1	General							
21.2.2	Customer Secure Login Services							
21.2.3	Other Required Services							
22	Customer Service Representatives Phone Services							
22.1	Introduction							
22.2	Requirements							
23	Automated Customer Service Phone Services							
23.1	Introduction							
23.2	Requirements							
23.2.1	Services							
23.2.2	Systems							
23.2.3	511 IVR Integration							
23.2.4	HERO Call Forwarding							
24	Mail Processing Management							
24.1	Introduction							
24.2	Requirements							
25	Payment Processing							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
25.1	Introduction							
25.2	Requirements							
25.2.1	General Requirements							
25.2.2	Forms of Payment							
25.2.3	Credit and Debit Card Requirements							
25.2.4	ACH Requirements							
25.2.5	EBT/PIN Debit Card Requirements							
25.2.6	Check Processing Services							
25.2.7	Interagency Payment Processing Services							
25.2.8	Debt Collection Services							
25.2.9	Lockbox Services							
25.2.10	Payment Deposit Requirements							
25.2.11	Photo-Enforced Toll Payments							
25.2.12	Customer-Initiated Payments							
26	Sales Tax							
26.1	Introduction							
26.2	Requirements							
27	Collection Support							
27.1	Introduction							
27.2	Requirements							
28	Financial Accounting							
28.1	Introduction							
28.2	Requirements							
28.2.1	General Requirements							
28.2.2	Types of Financial Activities							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
28.2.3	Financial Functions of the CSC System							
28.2.3.1	General Financial Functions of the CSC System							
28.2.3.2	Financial Activities							
29	Reconciliation							
29.1	Introduction							
29.2	Requirements							
29.2.1	General Requirements							
29.2.2	Toll Transportation Facility Activity							
29.2.3	Toll Sales							
29.2.4	Other Sales and Fees							
29.2.5	Financial Institutions							
29.2.6	Accounts Receivable							
29.2.7	Account Activity and Balances							
29.2.8	WSDOT Financial, Accounting and Other Systems							
30	Internal Controls							
30.1	Introduction							
30.2	System Controls							
30.3	Operational Accounting Controls							
30.4	Photo-Enforced Toll Processing Accountability							
30.5	System Audit Ability							
31	Auditing Support Requirements							
32	Standard Operating Procedures							
33	Reporting							
33.1	Introduction							
33.2	Requirements							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
33.2.1	General Requirements							
33.2.2	Types of Reports							
34	System to System Interfaces							
34.1	Introduction							
34.2	Requirements							
34.2.1	General Requirements							
34.2.2	Interface Development							
34.2.2.1	Design							
34.2.2.2	Development							
34.2.2.3	Testing							
34.2.2.4	Implementation							
34.2.2.5	Operations and Maintenance							
34.2.3	WSDOT Toll Transportation Facilities							
34.2.4	Toll Transportation Facility Traffic Counts							
34.2.5	Registered Vehicle Owner Information							
34.2.5.1	Washington State Department of Licensing							
34.2.5.2	Other State Departments of Motor Vehicles							
34.2.5.3	Third-Party Sources of Information							
34.2.6	Financial Institutions							
34.2.7	WSDOT Accounting, Financial, and Other Systems							
34.2.8	Washington Court Systems							
35	Training							
35.1	Introduction							
35.2	Requirements							
35.2.1	General							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
35.2.2	Training Method							
35.2.3	Training Equipment							
36	IT Services							
36.1	Introduction							
36.2	Requirements							
36.2.1	General Requirements							
36.2.2	Ongoing Preventive Maintenance and Regular Software Upgrades							
36.2.3	System Maintenance Requirements							
36.2.4	Communication Network Support							
36.2.5	Software Licenses							
36.2.6	Warranties							
37	Security Management							
37.1	Introduction							
37.2	Requirements							
37.2.1	Paper and Electronic Data							
37.2.2	Systems							
37.2.2.1	Layered Security and PCI DSS Compliance							
37.2.3	Internet							
37.2.4	Facilities							
37.2.5	Staff							
37.2.6	Funds							
37.2.7	Financial Accounting							
37.2.8	Notification							
38	Program Facilities							
38.1	Introduction							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
38.2	Requirements							
39	Marketing and Public Relations Support							
39.1	Introduction							
39.2	Requirements							
40	System and Services Modifications							
41	Business Continuity							
41.1	Introduction							
41.2	Requirements							
41.2.1	Financial Guarantees							
41.2.2	Vendor Approach to Daily Operational Requirements							
41.2.3	Vendor Approach to Significant Unplanned Events							
41.2.4	Vendor Assisted Transition of All or Part of Operations							
41.2.4.1	Transition Requirements							
41.2.4.2	Transition Plan							
41.2.5	Suspension of Operations – Vendor Unavailable							
41.2.5.1	Suspension of Operations Requirements							
41.2.5.2	Suspension of Operations Plan							
Appendix 3 – Business Rules								
1	General							
1.1	Vision, Goals, Mission and Objectives							
1.2	Services							
1.2.1	Customer Service Walk-In Center(s)							
1.2.2	Call Center							
1.2.3	Integrated Voice Response Phone System							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
1.2.4	Online Website							
1.2.5	Mail							
1.2.6	Email							
1.2.7	Fax							
2	Account Establishment							
2.1	General							
2.2	Account Types							
2.3	Account Information							
3	Payment Processing							
3.1	Initial and One-Time Payments							
3.2	Automatic Replenishment							
3.3	Adjustments							
4	Account Management							
4.1	Account Statuses							
4.2	Account Conversion							
4.3	Account Fees							
4.4	Correspondence							
4.4.1	Letters							
4.4.2	Statements							
4.4.3	Toll Bills and Notices of Infraction							
4.4.4	Enrollment Applications							
4.4.5	Customer Agreement							
4.5	Non-Sufficient Funds Payments							
4.6	Refunds							
4.7	Customer Information Requests							



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Section No.	Section Title	Compliance			Effort Required			Vendor Comments
		Yes	No	Exceeds	Existing	Modify	Develop	
5	Transponder Management							
5.1	Transponder Types							
5.2	Transponder Fee(s)							
6	Other Retail Item(s) Management							
7	Toll Transaction Processing							
7.1	Transponder-based Toll Transactions							
7.2	Plate-based Toll Transactions							
7.3	Toll Transaction Fee(s)							
7.4	Toll Transaction Adjustments							
8	Photo-Enforced Tolling and Adjudication							
9	Mail Processing							
10	Discount Program Management							
11	Toll Rate Management							
12	Displaying Account Information							
13	Customer Complaint/Dispute Resolution							
14	Financial Activities							
14.1	Audit							
14.2	Reconciliation							
14.3	Financial Reporting							
15	Operations Reporting							
16	Interfaces to External Systems							
17	Security							

APPENDIX 9 — PRICING AND DELIVERY TABLES

INSTRUCTIONS

1. The Vendor shall complete and submit the following tables as their price proposal:
 - Pricing and Delivery Table 9-1 (CSC Implementation)
 - Pricing and Delivery Table 9-2 (Monthly CSC Operations prior to Tolling Commencement)
 - Pricing and Delivery Table 9-3 (Monthly CSC Operations after Tolling Commencement)
 - Pricing and Delivery Table 9-4 (CSC Change Orders)
2. Pricing and Delivery Table 9-1
 - The Vendor shall provide the Delivery Date for each listed Implementation Payment Milestone. These dates shall comply with the requirements and shall match the Vendor's submitted Program Schedule for each respective milestone.
 - The Vendor shall provide the pricing amount for each Implementation Payment Milestone based on the requirements. The Vendor shall confirm that the amount for the Acceptance Issued milestone equates to the amount specified by the requirements.
 - The Vendor shall confirm that the Total Phase 1 (Implementation) Price is correct.
 - The Total Phase 1 (Implementation) Price (from Table 9-1) plus the Total Phase 2 Price (from Table 9-2) shall not exceed the published Upset Price (see RFP Section 1.3 - Program Budget).
3. Pricing and Delivery Table 9-2
 - For each month prior to Tolling Commencement that the Vendor elects to provide CSC operations (i.e., Services), the Vendor shall provide a listing of tasks and/or achievements and a respective pricing amount. (Note: This effort shall not begin earlier than April 2010 (6 months prior to Tolling Commencement).) CSC operations tasks and/or achievements shall be related to issuing transponders and accepting and posting customer payments and processing toll transactions. Each listed task and/or achievement shall be measurable (e.g., - Will begin transponder distribution on 5/1/10).
 - The Vendor shall confirm that the Total Phase 2 Price is correct.
 - The Total Phase 1 (Implementation) Price (from Table 9-1) plus the Total Phase 2 Price (from Table 9-2) shall not exceed the published Upset Price (see RFP Section 1.3 - Program Budget).
4. Pricing and Delivery Table 9-3
 - The Vendor shall provide CSC operations pricing for after Tolling Commencement in the form of fixed and variable pricing components based on the requirements and the indicated phases (based on WSDOT's fiscal year). The variable monthly pricing shall be based on the quantity of Active Transponder Accounts (as reported by the CSC at the end of each month).
5. Pricing and Delivery Table 9-4
 - The Vendor shall provide a listing of all potential staff positions for the purpose of developing pricing for future Change Orders.
 - The Vendor shall provide a price (hourly rate) for each position listed.
6. See Performance Measures and Liquidated Damages Tables for additional information and requirements.

PRICING AND DELIVERY TABLE 9-1 (CSC Implementation)

		Project Phase(s)				
		Phase 1 (Implementation) NTP to CSC Acceptance				
		Delivery Date		Pricing		
Implementation Payment Milestone (not necessarily in chronological order)	Qualifying Event(s)	Requirement(s)	Date	Unit	Requirement(s)	Amount
Program Planning Complete	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> Program Management Plan (with initial Program Schedule) Quality Management Plan Achievement of the following: <ul style="list-style-type: none"> Mobilization of all Key Program Staff 	Milestone achieved within 60 Calendar Days of Notice To Proceed		One-Time Lump Sum	Shall not be greater than 20% of the Total Phase 1 (Implementation) Price	
Financial & Accounting Preparation Complete	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> WSDOT Financial & Accounting System ICD Reconciliation Procedures Internal Control Plan 	Milestone achieved no later than 30 Calendar Days before CSC Operations Commencement		One-Time Lump Sum	None	
Operations Preparation Complete	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> Updated Business Rules CSC Requirements Trace Document Initiation of Revenue Operations Plan Transponder Distribution Plan Security Management Plan Standard Operating Procedures CSR Scripts IVR Scripts Standard Customer Correspondence Website Content Reports (Opening Ready) Training Plan Training Materials 	Milestone achieved no later than 30 Calendar Days before CSC Operations Commencement		One-Time Lump Sum	None	
System Preparation Complete	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> Software Enhancement Design System Network Design Software System Documentation System Integration Plan System to System Interface Control Documents 	Milestone achieved no later than 30 Calendar Days before CSC Operations Commencement		One-Time Lump Sum	None	
TNB Data Migration Complete	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> TNB Data Migration Plan Data Mapping Migration Test Plan Migration Test Procedures Trial Migration Test Report Migration Test Report Deficiencies Log Achievement of the following: <ul style="list-style-type: none"> Completion of Trial Migration Completion of Migration Priority 1 & 2 Deficiencies resolved 	Milestone achieved no later than CSC Operations Commencement		One-Time Lump Sum	None	
Facilities Established	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> Facilities Plan Acquisition of Certificate of Occupancy for the following: <ul style="list-style-type: none"> Vendor's Program Management Office(s) Customer Service Storefronts Customer Service Center(s) 	Milestone achieved no later than 30 Calendar Days before Tolling Commencement		One-Time Lump Sum	None	

PRICING AND DELIVERY TABLE 9-1 (CSC Implementation) - continued

		Project Phase(s)				
		Phase 1 (Implementation) NTP to CSC Acceptance				
		Delivery Date		Pricing		
Implementation Payment Milestone (not necessarily in chronological order)	Qualifying Event(s)	Requirement(s)	Date	Unit	Requirement(s)	Amount
Start-up Complete	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> • Test Plan • Factory Acceptance Testing Procedures • Factory Acceptance Test Report • Integration and Commissioning Testing Procedures • Integration and Commissioning Test Report • Acceptance Testing Procedures • Deficiencies Log Achievement of the following: <ul style="list-style-type: none"> • Website established • CSC phone service established • IVR established • Communication Network established • Interfaces established • Priority 1 & 2 Deficiencies resolved • Vendor staff recruited and trained 	Milestone achieved no later than 30 Calendar Days before Tolling Commencement		One-Time Lump Sum	None	
Acceptance Issued	Approval (by WSDOT) of the following: <ul style="list-style-type: none"> • Business Continuity Plans • Acceptance Test Report • Deficiencies Log Achievement of the following: <ul style="list-style-type: none"> • Priority 1 & 2 Deficiencies resolved • All other Implementation related deliverables submitted • All other Implementation related approvals obtained • CSC Systems and Services Operational for 60 Calendar Days 	See Appendix 2 - Scope of Work.		One-Time Lump Sum	Shall be equal to 20% of the Total Phase 1 (Implementation) Price	
Total Phase 1 (Implementation) Price:					Note: The Total Phase 1 (Implementation) Price plus the Total Phase 2 Price shall not exceed the published Upset Price	

 - Vendor provided information/amount

 - Calculation (based on Vendor provided amounts)

PRICING AND DELIVERY TABLE 9-2 (Monthly CSC Operations prior to Tolling Commencement)

Project Phase(s)			
Phase 2			
Months prior to Tolling Commencement			
Monthly Operations	Measurable Task(s)/Achievement(s)	Pricing	
		Unit	Amount
April 2010 (6 months prior to Tolling Commencement)		One-Time Lump Sum	
May 2010 (5 months prior to Tolling Commencement)		One-Time Lump Sum	
June 2010 (4 months prior to Tolling Commencement)		One-Time Lump Sum	
July 2010 (3 months prior to Tolling Commencement)		One-Time Lump Sum	
August 2010 (2 months prior to Tolling Commencement)		One-Time Lump Sum	
September 2010 (1 month prior to Tolling Commencement)		One-Time Lump Sum	
Total Phase 2 Price:			
Total Phase 1 (Implementation) Price (from Table 9-1):			
Total Phase 1 (Implementation) Price plus Total Phase 2 Price (see Note 1):			

Note 1: The Total Phase 1 (Implementation) Price plus the Total Phase 2 Price shall not exceed the published Upset Price.

- Vendor provided information/amount
 - Calculation (based on Vendor provided amounts)

PRICING AND DELIVERY TABLE 9-3 (Monthly CSC Operations after Tolling Commencement)

		Project Phase(s)			
		Phase 3 (Ramp-up) Tolling Commencement through end of FY 2011 (6/30/11)	Phase 4 SR 520 Tolling FY 2012 (7/1/11 - 6/30/12)	Phase 5 SR 520 Tolling FY 2013 (7/1/12 - 6/30/13)	Phase 6 SR 520 Tolling FY 2014 (7/1/13 - 6/30/14)
		Pricing			
Monthly Operations	Unit	Amount	Amount	Amount	Amount
Fixed Monthly Price*	Monthly Lump Sum				
Variable Monthly Price - Based on Active Transponder Accounts*					
Step 1: ≤ 500,000	Monthly Lump Sum				
Step 2: 500,001 - 700,000	Monthly Lump Sum				
Step 3: 700,001 - 1,000,000	Monthly Lump Sum				
Step 4: 1,000,001 - 1,500,000	Monthly Lump Sum				
Step 5: 1,500,001 - 2,000,000	Monthly Lump Sum				
Step 6: 2,000,001 - 2,500,000	Monthly Lump Sum				
Step 7: ≥ 2,500,001	Monthly Lump Sum				

- Vendor provided information/amount

* See Contract for pricing beyond FY 2014.

PRICING AND DELIVERY TABLE 9-4 (CSC Change Orders)

Position	Pricing to be used for any Change Order(s) issued through end of FY 2011 (6/30/2011)**	
	Unit	Amount
1. Program Manager	Hourly	
2. IT Manager	Hourly	
3. Financial and Accounting Manager	Hourly	
4. Customer Service Manager	Hourly	
5. QA/QC Manager	Hourly	
6. Marketing Staff Person	Hourly	
7.	Hourly	
8.	Hourly	
9.	Hourly	
10.	Hourly	
11.	Hourly	
12.	Hourly	
13.	Hourly	
14.	Hourly	
15.	Hourly	
16.	Hourly	
17.	Hourly	
18.	Hourly	
19.	Hourly	
20.	Hourly	
21.	Hourly	
22.	Hourly	
23.	Hourly	
24.	Hourly	
25.	Hourly	

 - Vendor provided information/amount

** See Contract for pricing beyond FY 2011.

APPENDIX 10 — PRICE CERTIFICATION



**WASHINGTON STATE DEPARTMENT OF
TRANSPORTATION
ADMINISTRATIVE SERVICES CONTRACTS OFFICE**

PRICE CERTIFICATION

I certify that the Appendix 9 – Price Proposal Tables shall remain in effect for a period of one hundred eighty (180) Calendar Days following the due date of the proposal.

Signature

Date

Printed Name

Title

APPENDIX 11 — EXTERNAL SYSTEM INTERFACES

Appendix 11.1: TRAINS Example Record Layout

Appendix 11.2: CSC – to – SR 167 TCS ICD

Appendix 11.1
Transportation Accounting and Reporting System (TRAINS)
Example Record Layouts

The following pages provide examples of the Transportation Accounting and Reporting System (TRAINS) record layouts. These examples are provided for illustrative purposes only. The development of a specific interface from the Vendor supplied Customer Service Center System to TRAINS will be required as part of the Project.

The copy feature (**IDSFREC**) is used for all interface transaction files that are sent to TRAINS. The document definition that is being used is moved to the area called RECORD-DATA in the IDSFREC. If yours is not a mainframe application, you will need to create a file that will 'map' directly to the copy features referenced when it is uploaded to the mainframe. The interfacing application is responsible for creating the file in the correct format, uploading to the DOT mainframe, and placing it in the correct dataset. The TRAINS application is responsible for providing a report of data input, loading the data to the Document Suspense File, clearing the input file, and processing the documents. Normally the input file is checked for data every night, and processed if data is present. If a backup of the input data is necessary, the interfacing application is responsible for creating one.

The definition for 'CR' documents is contained in copy feature **TCR**. When the header record is built, it (CR-DOCH) would be moved to RECORD-DATA in the IDSFREC. When the detail record is built, it (CR-DOCD) would be moved to RECORD-DATA in the IDSFREC. This means that the file created will contain 2 different types of records - document header records, and document detail (line) records.

Most of the fields are obtained from the interfacing application and others may be from TRAINS tables. The TRAINS support staff can provide necessary information in use of that systems tables. **The contents described below is what is most commonly used, but it may vary depending on the application (discuss with Accounting Services).**

CR Cash Receipt Form

DSF-LOAD-RECORD

RECORD-TYPE	PIC X	'D' for document header, or 'L' for document detail line
PAGE-TYPE	PIC X	blank
BATCH-ID		
BATCH-TYPE	PIC X(4)	value 'CR '
BATCH-ORG1	PIC X(4)	To be determined (use 1 st three characters only)
BATCH-NUMBER	PIC X(6)	blank
DOC-ID.		
DOC-TYPE	PIC X(4)	value 'CR '
DOC-ORG1	PIC X(4)	To be determined (use 1 st three characters only)
DOC-NUMBER	PIC X(12)	To be determined (use 1 st eleven characters only)
RECORD-DATA	PIC X(500)	CR-DOCH (header) or CR-DOCD (detail) data from copy feature TCR

Document Header Record**CR-DOCH**

TRANS-CODE	PIC X(02)	value 'CR'
TRANS-NUMBER.		
TRANS-NUMBER-AGENCY	PIC X(03)	same as DOC-ORG1 on IDSFREC
TRANS-NUMBER-NUMBER	PIC X(11)	same as DOC-NUMBER on IDSFREC
RECORD-MONTH	PIC X(02)	Deposit Date
RECORD-DAY	PIC X(02)	Deposit Date
RECORD-YEAR	PIC X(02)	Deposit Date
FISC-MONTH	PIC X(02)	Optional – inferred from Deposit Date
FISC-YEAR	PIC X(02)	Optional - inferred from Deposit Date
BUDGET-FY	PIC X(02)	Optional - inferred from Deposit Date
DOCUMENT-ACTION	PIC X(01)	
BANK-ACCOUNT-CODE	PIC X(02)	
OFFSET-CASH-ACCOUNT	PIC X(04)	
DOCUMENT-DESCRIPTION	PIC X(11)	
YEAR-END-PHASE	PIC X(01)	
DOCUMENT-TOTAL	PIC X(14)	Right-justified, zero-filled, 2 implied decimal characters. The first character may also be a "-", "+", or blank.
ACTUAL-DOC-TOTAL	PIC X(14)	Blank

Document Detail Record**CR-DOCD**

REF-TRANS-NUMBER-AGY	PIC X(03)	To be determined
REF-TRANS-NUMBER-NBR	PIC X(11)	To be determined
REF-TRANS-LINE	PIC X(02)	
FUND	PIC X(03)	
AGENCY	PIC X(03)	
WSDOT-ORGANIZATION		
XORGANIZATION	PIC X(04)	To be determined
SUB-ORG	PIC X(02)	To be determined
ACTIVITY	PIC X(04)	To be determined
REVENUE-SOURCE	PIC X(04)	To be determined
SUB-REV-SOURCE	PIC X(02)	To be determined
JOB-NUMBER		
WSDOT-WORK-ORDER	PIC X(06)	
WSDOT-GROUP	PIC X(02)	
REPORTING-CATEGORY	PIC X(04)	
BS-ACCOUNT	PIC X(04)	
OBJECT	PIC X(04)	
SUB-OBJECT	PIC X(02)	
PROVIDER-CODE	PIC X(11)	
LINE-DESCRIPTION	PIC X(30)	
LINE-AMOUNT	PIC X(14)	Right-justified, zero-filled, 2 implied decimal characters
LINE-ACTION	PIC X(01)	"I" or "D" - defaults to "I"
PARTIAL-FINAL-IND	PIC X(01)	blank
APPR-UNIT	PIC X(03)	blank
FUNCTION	PIC X(04)	blank
REF-TRANS-CODE	PIC X(02)	
WSDOT-CONT-SECT	PIC X(06)	
WSDOT-PARCEL	PIC X(06)	
WSDOT-EQUIP-WORKED	PIC X(08)	
LINE-NUMBER	PIC X(02)	
CUSTOMER-NAME	PIC X(30)	
BILLING-CODE	PIC X(04)	
PAY-AGREE	PIC X(08)	

The copy feature (**IDSFREC**) is used for all interface transaction files that are sent to TRAINS. The document definition that is being used is moved to the area called RECORD-DATA in the IDSFREC. If yours is not a mainframe application, you will need to create a file that will 'map' directly to the copy features referenced when it is uploaded to the mainframe. The interfacing application is responsible for creating the file in the correct format, uploading to the DOT mainframe, and placing it in the correct dataset. The TRAINS application is responsible for providing a report of data input, loading the data to the Document Suspense File (SUSF or XSUS), clearing the input file, and processing the documents. Normally the input file is checked for data every night, and processed if data is present. If a backup of the input data is necessary, the interfacing application is responsible for creating one.

The definition for Receivable documents (RE) is contained in COBOL copy member **TIN**. When the header record is built, it (RE-DOCH) would be moved to RECORD-DATA in the IDSFREC. When the detail record is built, it (RE-DOCD) would be moved to RECORD-DATA in the IDSFREC. This means that the file created will contain 2 different types of records - document header records, and document detail (line) records.

Most of the fields are obtained from the interfacing application and others may be from TRAINS tables. The TRAINS support staff can provide necessary information in use of that systems tables. **The contents described below is what is most commonly used, but it may vary depending on the application (discuss with Accounting Services).**

RE Receivable Form

Field Name	COBOL Format	Description	Start Column
<u>DSF-LOAD-RECORD</u>			
RECORD-TYPE	PIC X	'D' for document header, or 'L' for document detail line	1
PAGE-TYPE	PIC X	blank	2
BATCH-ID			3
BATCH-TYPE	PIC X(4)	value 'RE ' – left-justify, pad with blanks	3
BATCH-ORG1	PIC X(4)	To be determined (use 1 st three characters only)	7
BATCH-NUMBER	PIC X(6)	blank	11
DOC-ID.			17
DOC-TYPE	PIC X(4)	value 'RE ' – left-justify, pad with blanks	17
DOC-ORG1	PIC X(4)	To be determined (use 1 st three characters only)	21
DOC-NUMBER	PIC X(12)	To be determined (use 1 st eleven characters only)	25
RECORD-DATA	PIC X(500)	RE-DOCH (header) or RE-DOCD (detail) data from copy feature TIN	37

Field Name	COBOL Format	Description	Start Column
<u>Document Header Record</u>			
<u>RE-DOCH</u>			
TRANS-CODE	PIC X(02)	value 'RE'	37
TRANS-NUMBER.			39
TRANS-NUMBER-AGENCY	PIC X(03)	same as DOC-ORG1 on DSF-LOAD-RECORD	39
TRANS-NUMBER-NUMBER	PIC X(11)	same as DOC-NUMBER on DSF-LOAD-RECORD	42
RECORD-DATE	PIC X(06)	Document Date (<i>mmddyy</i> format) – if blank, will use current date	53
FISC-MONTH	PIC X(02)	Optional – can be inferred from Record Date	59
FISC-YEAR	PIC X(02)	Optional - can be inferred from Record Date	61
BUDGET-FY	PIC X(02)	Optional - can be inferred from Record Date	63
DOCUMENT-ACTION	PIC X(01)		65
CUSTOMER-ID	PIC X(11)	Required	66
DOCUMENT-DESCRIPTION	PIC X(11)		77
YEAR-END-PHASE	PIC X(01)		88
DOCUMENT-TOTAL	PIC X(14)	Right-justified, zero-filled, 2 implied decimal characters	89
CUSTOMER-NAME	PIC X(30)	Optional – inferred from CUSTOMER-ID	103
CUST-ADDRESS-LINE1	PIC X(30)	Optional – inferred from CUSTOMER-ID	133
CUST-ADDRESS-LINE2	PIC X(30)	Optional – inferred from CUSTOMER-ID	163
CUST-ADDRESS-LINE3			193
CITY	PIC X(28)	Optional – inferred from CUSTOMER-ID	193
STATE	PIC X(02)	Optional – inferred from CUSTOMER-ID	221
CUST-ZIP-CODE	PIC X(10)	Optional – inferred from CUSTOMER-ID	223
TYPE-OF-RECEIVABLE	PIC X(01)	Required	233
ACTUAL-DOC-TOTAL	PIC X(14)	Blank	234
OFF-BLD-REC-ACCT	PIC X(04)		248
REC-DUE-DATE	PIC X(06)	Due Date (<i>yymmdd</i> Format)	252
INSTRUCTION-CODE	PIC X(12)		258
BILLING-CODE	PIC X(04)	Required	270
RE-COMMENTS	PIC X(30)		274
THIRD-PARTY-BILL-FL	PIC X		304
FILLER	PIC X(196)	Blank	305

Field Name	COBOL Format	Description	Start Column
<u>Document Detail Record</u>			
<u>RE-DOCD</u>			
LINE-NO	PIC X(02)	To be determined	37
FUND	PIC X(03)	To be determined	39
AGENCY	PIC X(03)	To be determined	42
WSDOT-ORGANIZATION	PIC X(06)	To be determined	45
ACTIVITY	PIC X(04)	To be determined	51
REVENUE-SOURCE	PIC X(04)	To be determined	55
SUB-REV-SOURCE	PIC X(02)	To be determined	59
JOB-NUMBER			61
WSDOT-WORK-ORDER	PIC X(06)	To be determined	61
WSDOT-GROUP	PIC X(02)	To be determined	67
REPORTING-CATEGORY	PIC X(04)	To be determined	69
BS-ACCOUNT	PIC X(04)	To be determined	73
LINE-AMOUNT	PIC X(14)	Right-justified, zero-filled, 2 implied decimal positions	77
LINE-ACTION	PIC X(01)		91
LINE-DESCRIPTION	PIC X(30)	To be determined	92
OBJECT	PIC X(04)	To be determined	122
SUB-OBJECT	PIC X(02)	blank	126
APPR-UNIT	PIC X(03)	blank	128
FUNCTION	PIC X(04)	blank	131
TEXT-FLAG	PIC X	To be determined	135
WSDOT-CONT-SECT	PIC X(06)	To be determined	136
WSDOT-PARCEL	PIC X(06)	To be determined	142
WSDOT-EQUIP-NO	PIC X(08)	To be determined	148
RATE-CODE	PIC X(08)	To be determined	156
NUMBER-UNITS	PIC X(07)	To be determined	164
UOM	PIC X(10)	Unit of Measure - To be determined	171
FILLER	PIC X(329)	Blank	172

The copy feature (**IDSFREC**) is used for all interface transaction files that are sent to TRAINS. The document definition that is being used is moved to the area called RECORD-DATA in the IDSFREC. If yours is not a mainframe application, you will need to create a file that will 'map' directly to the copy features referenced when it is uploaded to the mainframe. The interfacing application is responsible for creating the file in the correct format, uploading to the DOT mainframe, and placing it in the correct dataset. The TRAINS application is responsible for providing a report of data input, loading the data to the Document Suspense File, clearing the input file, and processing the documents. Normally the input file is checked for data every night, and processed if data is present. If a backup of the input data is necessary, the interfacing application is responsible for creating one.

The definition for 'XJ' documents is contained in copy feature **TXJ**. When the header record is built, it (XJ-DOCH) would be moved to RECORD-DATA in the IDSFREC. When the detail record is built, it (XJ-DOCD) would be moved to RECORD-DATA in the IDSFREC. This means that the file created will contain 2 different types of records - document header records, and document detail (line) records.

Most of the fields are obtained from the interfacing application and others may be from TRAINS tables. The TRAINS support staff can provide necessary information in use of that systems tables. **The contents described below is what is most commonly used, but it may vary depending on the application (discuss with Accounting Services).**

Document file format

DSF-LOAD-RECORD (IDSFREC)

RECORD-TYPE	PIC X	'D' for document header, or 'L' for document detail line
PAGE-TYPE	PIC X	blank
BATCH-ID		
BATCH-TYPE	PIC X(4)	value 'XJ' (left-justified, trailing blanks)
BATCH-ORG1	PIC X(4)	Obtain from Accounting Services (left-justified, trailing blanks)
BATCH-NUMBER	PIC X(6)	blank
DOC-ID.		
DOC-TYPE	PIC X(4)	same as BATCH-TYPE
DOC-ORG1	PIC X(4)	same as BATCH-ORG1
DOC-NUMBER	PIC X(12)	Obtain from Accounting Services (only use the first 11 characters with trailing blank)
RECORD-DATA	PIC X(500)	XJ-DOCH (header) or XJ-DOCD (detail) data from copy feature TXJ

Document Header Record**XJ-DOCH**

TRANS-CODE	PIC X(02)	same as BATCH-TYPE in IDSFREC
TRANS-NUMBER.		
TRANS-NUMBER-AGENCY	PIC X(03)	same as BATCH-ORG1 in IDSFREC
TRANS-NUMBER-NUMBER	PIC X(11)	same as DOC-NUMBER in IDSFREC
RECORD-MONTH	PIC X(02)	Process month
RECORD-DAY	PIC X(02)	Process day
RECORD-YEAR	PIC X(02)	Process year
FISC-MONTH	PIC X(02)	TRAINS fiscal month
FISC-YEAR	PIC X(02)	TRAINS fiscal year
BUDGET-FY	PIC X(02)	blank - TRAINS will derive from FISC-YEAR
DEBIT-DOC-TOTAL	PIC X(14)	total of debit line amounts*
CREDIT-DOC-TOTAL	PIC X(14)	total of credit line amounts*
ACTUAL-DR-TOTAL	PIC X(14)	blank
ACTUAL-CR-TOTAL	PIC X(14)	blank
YEAR-END-PHASE	PIC X(01)	usually blank

* - Dollar Amount is unsigned, right-justified, zero-filled, with 2 *implied* decimal positions, and no commas or dollar signs.

**Document Detail (Line) Record
XJ-DOCD**

WSDOT-JOB-NUMBER		
WSDOT-WORK-ORDER	PIC X(06)	from application
WSDOT-GROUP	PIC X(02)	from application
WSDOT-ORGANIZATION		
XORGANIZATION	PIC X(04)	from application
SUB-ORG	PIC X(02)	from application
WSDOT-WORK-OPERATION	PIC X(04)	from application
OBJECT	PIC X(04)	from application
WSDOT-REV-SOURCE		
REVENUE-SOURCE	PIC X(04)	blank
SUB-REV-SOURCE	PIC X(02)	blank
WSDOT-CONT-SECT	PIC X(06)	from application (often blank)
WSDOT-PARCEL	PIC X(06)	from application (often blank)
WSDOT-EQUIP-NUM	PIC X(08)	from application (often blank)
ACCOUNT-TYPE	PIC X(02)	obtain in discussion with Accounting Services
WSDOT-BRIDGE-CODE	PIC X(01)	blank
BANK-ACCOUNT-CODE	PIC X(02)	blank
BS-ACCOUNT	PIC X(04)	usually blank
LINE-DESCRIPTION	PIC X(25)	to be determined by application
VEND-PROV-IND	PIC X(01)	blank
VENDOR-CODE	PIC X(11)	blank
VENDOR-NAME		
VEND-NAME-1	PIC X(17)	blank
VEND-NAME-FILLER	PIC X(13)	blank
WSDOT-TOT-DB-LN-AMT	PIC X(14)	dollar amount if debit, else blank*
WSDOT-TOT-CR-LN-AMT	PIC X(14)	dollar amount if credit, else blank*
WSDOT-TOT-LN-HOURS	PIC X(12)	blank
WSDOT-NPRT-DB-LN-AMT	PIC X(14)	blank
WSDOT-NPRT-CR-LN-AMT	PIC X(14)	blank
WSDOT-PAY-AGREE		
WSDOT-PAY-AGREE-7	PIC X(07)	blank
WSDOT-PAY-AGREE-1	PIC X(01)	blank
INTRA-GOVT-REF-FUND	PIC X(03)	blank
INTRA-GOVT-REF-AGNCY	PIC X(03)	blank
WSDOT-SVC-REQ-NUM	PIC X(06)	blank
ORDER-NUMBER	PIC X(07)	blank
WSDOT-WORK-UNITS	PIC X(04)	blank or 4-digit, right-justified, zero-filled number
WSDOT-PAY-OBJECT	PIC X(04)	blank
WSDOT-JOB-CLASS	PIC X(05)	blank

* - Dollar Amount is unsigned, right-justified, zero-filled, with 2 *implied* decimal positions, and no commas or dollar signs.

After your application creates this data, it MUST be copied into a dataset (on the DOT Mainframe) that will be pre-determined by the TRAINS Support Staff. There also must be a job added to the TRAINS Nightly Cycle to accept and load your data. This job is the responsibility of the TRAINS team, but they must have enough lead time to prepare. There is a test environment available to load the documents created and process them before you implement your interface process in production. Some of the information needed will have to be determined through discussions with your customer and the Accounting Services Office; the primary Accounting Services contact for these discussions is Pete Anthony (705-7513).

If there is ANY part of this document you don't understand, please contact the TRAINS Support Staff for clarification.

The COBOL copy member (**IDSFREC**) is used for all interface transaction files that are sent to TRAINS. The document definition that is being used is moved to the area called RECORD-DATA in the IDSFREC. If yours is not a mainframe application, you will need to create a file that will 'map' directly to the copy members referenced when it is uploaded to the mainframe. The interfacing application is responsible for creating the file in the correct format, uploading to the DOT mainframe, and placing it in the correct dataset. The TRAINS application is responsible for providing a report of data input, loading the data to the Document Suspense File (SUSF or XSUS), clearing the input file, and processing the documents. Normally the input file is checked for data every night, and processed if data is present. If a backup of the input data is necessary, the interfacing application is responsible for creating one.

The definition for 'XV' documents is contained in COBOL copy member TXV. When the header record is built, it (XV-DOCH) would be moved to RECORD-DATA in the IDSFREC. When the detail record is built, it (XV-DOCD) would be moved to RECORD-DATA in the IDSFREC.

Most of the fields are obtained from the interfacing application and others may be from TRAINS tables. The TRAINS support staff can provide necessary information in use of that systems tables. **The contents described below is what is most commonly used, but it may vary depending on the application (discuss with Accounting Services).**

XV Short Form Payment Vouchers

Field Name	COBOL Format	Description	Start Column
<u>DSF-LOAD-RECORD</u>			
RECORD-TYPE	PIC X	'D' for document header, or 'L' for document detail line	1
PAGE-TYPE	PIC X	blank	2
BATCH-ID			3
BATCH-TYPE	PIC X(4)	value 'XV '	3
BATCH-ORG1	PIC X(4)	To be determined (use 1 st three characters only)	7
BATCH-NUMBER	PIC X(6)	blank	11
DOC-ID.			17
DOC-TYPE	PIC X(4)	value 'XV '	17
DOC-ORG1	PIC X(4)	To be determined (use 1 st three characters only)	21
DOC-NUMBER	PIC X(12)	To be determined (use 1 st six characters only)	25
RECORD-DATA	PIC X(500)	XV-DOCH (header) or XV-DOCD (detail) data from copy member TXV	37
<u>Document Header Record</u>			
<u>XV-DOCH</u>			
TRANS-CODE	PIC X(02)	value 'XV'	37
TRANS-NUMBER.			39
TRANS-NUMBER-AGENCY	PIC X(03)	same as DOC-ORG1 on IDSFREC	39
TRANS-NUMBER-NUMBER	PIC X(11)	same as DOC-NUMBER on IDSFREC	42
RECORD-MONTH	PIC X(02)	Optional - To be determined	53
RECORD-DAY	PIC X(02)	Optional - To be determined	55
RECORD-YEAR	PIC X(02)	Optional - To be determined	57
FISC-MONTH	PIC X(02)	Optional - To be determined	59
FISC-YEAR	PIC X(02)	Optional - To be determined	61
BUDGET-FY	PIC X(02)	Optional - To be determined	63
VENDOR-CODE	PIC X(11)	Required	65
DOCUMENT-TOTAL	PIC X(14)	Total of Line Amounts	76
VENDOR-NAME	PIC X(30)	Optional, if on TRAINS Vendor Table	90
VENDOR-ADD-LINE-1	PIC X(30)	Optional, if on TRAINS Vendor Table	120
VENDOR-ADD-LINE-2	PIC X(30)	Optional, if on TRAINS Vendor Table	150
VENDOR-ADD-LINE-3			180

VENDOR-ADD-CITY	PIC X(18)	Optional, if on TRAINS Vendor Table	180
VENDOR-ADD-STATE	PIC X(02)	Optional, if on TRAINS Vendor Table	198
VENDOR-ADD-ZIP	PIC X(10)	Optional, if on TRAINS Vendor Table	200
ACTUAL-DOC-TOTAL	PIC X(14)	Blank	210
YEAR-END-PHASE	PIC X(01)	Blank	224
OFFSET-LIAB-ACCT	PIC X(04)	Blank	225
FILLER	PIC X(272)	Blank	229

Document Detail Record**XV-DOCD**

WSDOT-WORK-ORDER	PIC X(06)	To be determined	37
WSDOT-GROUP	PIC X(02)	To be determined	43
WSDOT-ORGANIZATION			45
XORGANIZATION	PIC X(04)	To be determined	45
SUB-ORG	PIC X(02)	To be determined	49
WSDOT-WORK-OPERATION	PIC X(04)	To be determined	51
OBJECT	PIC X(04)	To be determined	55
WSDOT-CONT-SECT	PIC X(06)	Optional - To be determined	59
WSDOT-PARCEL	PIC X(06)	Optional - To be determined	65
VENDOR-INVOICE	PIC X(12)	To be determined	71
WSDOT-EQUIP-NUM	PIC X(08)	blank	83
WSDOT-XO-NUMBER			91
WSDOT-XO-NUM-AGY	PIC X(03)	To be determined	91
WSDOT-XO-NUM-NUM	PIC X(07)	To be determined	94
WSDOT-XO-LINE	PIC X(02)	blank	101
WSDOT-PURCH-AUTH	PIC X(07)	To be determined	103
LINE-DESCRIPTION			110
WSDOT-INV-MM	PIC X(02)	To be determined	110
WSDOT-INV-DD	PIC X(02)	To be determined	112
WSDOT-INV-YY	PIC X(02)	To be determined	114
WSDOT-DESC	PIC X(19)	blank	116
WSDOT-FILLER	PIC X(01)	blank	135
WSDOT-FND-ENG-IND	PIC X(01)	blank	136
PC-LINE-NUMBER	PIC X(03)	blank	137
WSDOT-TOT-LINE-AMT	PIC X(14)	Total Line Amount	140
WSDOT-TOT-LN-QUANT	PIC X(12)	To be determined	154
LINE-ACTION	PIC X(01)	blank	166
WSDOT-NPRT-LINE-AMT	PIC X(14)	Portion of Total Line Amount that is non-participating	167
PARTIAL-FINAL-IND	PIC X(01)	blank	181
WSDOT-RETAIN-LN-AMT	PIC X(14)	blank	182
WSDOT-RETAINAGE-TYPE	PIC X(02)	blank	196
WSDOT-PAY-AGREE	PIC X(08)	To be determined	198
BS-ACCOUNT	PIC X(04)	blank	206
WSDOT-SVC-REQ-NUM	PIC X(06)	blank	210
FILLER	PIC X(285)	Blank	216

Washington State Department of Transportation

Tacoma Narrows / SR167 Hot Lane Integration

Interface Control Document



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1. INTRODUCTION

1.1 Overview

The Washington State Department of Transportation (WSDOT) will be implementing the following two toll collection systems in the near future:

- Tacoma Narrows Bridge
- SR167 high occupancy toll (HOT) lanes

Both systems will be able to collect tolls electronically using automatic vehicle identification (AVI) transponders. The sole method for collecting tolls on SR167 system will be through the use of AVI transponders on single occupancy vehicles. However, the SR167 system will not include a customer service center.

The Tacoma Narrows Bridge system includes a fully functional customer service and violations processing center. The WSDOT plans to enable AVI accounts maintained at this service center to be able to be used for paying tolls on SR167.

1.2 Purpose

To ensure a successful integration of the SR167 HOT lanes with the Tacoma Narrows Bridge TCAAS, the purpose of this Interface Control Document (ICD) is to:

- Specify a non proprietary solution for data exchanges between SR167 and the TCAAS
- Specify a solution that can be reused by WSDOT for other high occupancy toll facilities in Washington that may want to use the TCAAS for customer service functions
- Specify all data exchanges necessary to support appropriate customer service functions by staff at the Tacoma Narrows Bridge Customer Service Center
- Specify all data exchanges necessary to support high occupancy lane operation by SR167

1.3 Structure

Following this introduction, the document has been split into the following six sections:

- General information – describing general processes that apply to all data exchanges
- Data exchanges – describes each data exchange as well as the layout and detail description of data included in the file

- File Transfer Flow - describes the process/methods/communications protocols/timings for the transmission of data/files
- Failure Path – describes processes for dealing with failed file transfers or failed processing of files
- Security requirements – describes processes/methods required for secure transmission of data/files
- Data Elements - provides additional definition of each data element referenced in the data exchanges

2. GENERAL INFORMATION

2.1 Data Exchanges

The Data Exchanges defined in this Interface Control Document are

Data Exchange	File Extension	Usage
Tag Status Data	FTSF	Created each day by the TCAAS to include all valid tags.
HOT Lane Transaction Data	FTXF	Created each day by the Facility (SR167) to include all transactions that need to be posted to an account maintained by TCAAS.
Transfer Complete	CHK	Created by the entity transferring a file to indicate that the file transfer is complete and the corresponding file can be validated and processed. The absence of this file indicates that the file transfer has not been completed.
Acknowledgment	ACK	Created by the entity downloading the file from the FTP server. It is used to confirm that the file has been validated. Error codes within the file provide additional information to the TCAAS or Facility.

An FTP server will be managed by the Tacoma Narrows CSC to enable the TCAAS to receive data files from Facilities. This same FTP server will also include files from TCAAS that each Facility will be required to download.

2.2 Transmission Requirements

File transfers between the Facility and the TCAAS FTP server will be completed using the file transfer protocol (FTP).

The schedule for transmitting files between TCAAS and Facilities are

Data Exchange	Transmission Frequency	Notes
Tag Status Data	Twice per day	1) After nightly replenishment and prior to 04:00AM. 2) Between 12:00PM and 1:00PM
HOT Lane Transaction Data	Once per day	Between 00:00 and 01:00.
Transfer Complete	Varies	One for each file transfer
Acknowledgment	Varies	One for each file transfer

2.3 Transaction Processing

Transactions from a Facility shall be sent to TCAAS in a timely manner. The TCAAS shall reject original transactions that are older than 60 days.

Transactions that cannot be posted to accounts will result in the facility not receiving the amount due for the transaction.

2.4 Reporting Requirements

The TCAAS will provide the financial reporting for the SR167 HOT lanes. Several reports will be available in TCAAS to identify the count of toll transactions that the TCAAS successfully posted for that Facility for a particular revenue date. Tolls, fees or other deductions will not be included in this report.

An additional report (Transponder Transaction Exception Report) will also be available to the Facility via TCAAS to identify those transactions that were not posted to an account. This report represents the amount of toll transactions that the Facility will not receive for a particular revenue date.

2.5 File Requirements

2.5.1 Format

Files will be well-formed XML files. The following rules will be applied for using XML tags:

- XML tags must be nested properly
- XML tags are case sensitive. Therefore, <tag> and <Tag> are treated as different/distinct.
- XML tags must have a beginning and an end
- Each tag must be enclosed in < and >
- Optional tags do not need to be included. However if one of the detail records contains optional tags then all other detail records must include these tags even if there is no data for the tag.

2.5.2 Top Level (Root) Tags

The Top Level Tag in all files will include a description of the file type and the version number of the ICD to which the data complies. Spaces will be replaced by the underscore (“_”) character.

For example, the transaction file that complies with version 1.2 of this document will have a top level tag as follows: <TRANSACTION_FILE_1.2>

2.5.3 Dates

Any dates used in file names of data elements will utilize the 24 hour clock. For example, 3:05pm will always be written as 15:05.

2.5.4 File Naming Conventions

Only uppercase characters shall be used in file names.

Compression

All files transmitted to the FTP server (except for the Transfer Complete and Acknowledgement Files) shall be compressed using a standard Lempel-Zif compression algorithm to yield a compression rate of at least 75%. The extension of these files will all be converted from [File Name].[File Type] to [File Name]_[File Type].ZIP.

2.5.5 Encryption

All files transmitted to the FTP server (except for the Transfer Complete file) shall be encrypted after they have been compressed and before they are transmitted to the FTP server. The security requirements for files are described in a later section of this document.

2.5.6 Archiving

All files on the FTP server will remain available for download for a period of seven (days). Files with an upload date that is older than seven (7) days will be moved from the FTP server to an archive folder. This archive folder will only be accessible by TCAAS.

Files in the FTP archive folder shall remain accessible via online storage for at least 60 days. Files shall remain accessible via offline storage (such as a tape backup) for at least 360 days after being deleted from the archive folder. These files will only be available to use in case of disputes between TCAAS and a Facility.

3. DATA EXCHANGES

3.1 Tag Status File

3.1.1 Description

The Tag Status File is created by TCAAS and transmitted to a Facility for processing. It will contain the tag status data for all tags associated with an account maintained at the TCAAS. Additional Tag information will also be included to enable the Facility to identify if the tag is a revenue or non-revenue tag.

3.1.2 Naming Convention

[FILE_DATE_TIME].FTSF

Example: For a Tag Status file created by at 02:00:05 on June 19, 2006 the name of the file be 20060619020005.FTSF.

3.1.3 Layout

```
<TAG_STATUS_FILE_1.0>
<HEADER>
  <FILE_DATE_TIME></FILE_DATE_TIME>
  <TOTAL_TAG_COUNT></TOTAL_TAG_COUNT>
  <TOTAL_TAG_COUNT_STATUS_0></TOTAL_TAG_COUNT_STATUS_0>
  <TOTAL_TAG_COUNT_STATUS_1></TOTAL_TAG_COUNT_STATUS_1>
  <TOTAL_TAG_COUNT_STATUS_2></TOTAL_TAG_COUNT_STATUS_2>
  <TOTAL_TAG_COUNT_STATUS_3></TOTAL_TAG_COUNT_STATUS_3>
  <TOTAL_TAG_COUNT_STATUS_4></TOTAL_TAG_COUNT_STATUS_4>
  <TOTAL_TAG_COUNT_STATUS_5></TOTAL_TAG_COUNT_STATUS_5>
</HEADER>
<DETAIL_DATA>
  <TAG>
    <RECORD_ID></RECORD_ID>
    <TAG_AGENCY_ID></TAG_AGENCY_ID>
    <TAG_PROTOCOL></TAG_PROTOCOL>
    <TAG_REVENUE_TYPE></TAG_REVENUE_TYPE>
    <TAG_NUMBER></TAG_NUMBER>
    <TAG_HW_SERIAL_NUMBER></TAG_HW_SERIAL_NUMBER>
    <TAG_CLASS></TAG_CLASS>
    <TAG_STATUS></TAG_STATUS>
  </TAG>
</DETAIL_DATA>
<FOOTER>
</FOOTER>
</TAG_STATUS_FILE_1.0>
```


3.1.4 Data Elements

3.1.4.1 Top Level (Root) Tag

The file description used in the top level xml tag will be <TAG_STATUS_FILE_x.x> where x.x is the version number of the ICD with which the file will comply.

3.1.4.2 Header

Each file will contain a header record containing data applicable to all detailed records and providing summary data to be used to verify file integrity. Listed below are the data elements for the <HEADER> record in a Tag Status File.

Data Element Name	Mandatory
FILE_DATE_TIME	Yes
TAG_TOTAL_COUNT	Yes
TAG_COUNT_STATUS_0	Yes
TAG_COUNT_STATUS_1	Yes
TAG_COUNT_STATUS_2	Yes
TAG_COUNT_STATUS_3	Yes
TAG_COUNT_STATUS_4	Yes
TAG_COUNT_STATUS_5	Yes

3.1.4.3 Detail Data

Each Tag record will be contained within a <TAG> record. Listed below are the data elements for the <TAG> record.

Data Element Name	Mandatory
RECORD_ID	Yes
TAG_AGENCY_ID	Yes
TAG_PROTOCOL	Yes
TAG_REVENUE_TYPE	Yes
TAG_NUMBER	Yes
TAG_HW_SERIAL_NUMBER	No
TAG_CLASS	Yes
TAG_STATUS	Yes

3.1.4.4 Footer

Each file will contain a footer record with no required data elements. Future enhancements to this interface control document may necessitate the inclusion of tags in this record. However, for this version of the interface control document, no tags are required to be included in the footer record.

3.1.5 Example

```
<?xml version="1.0"?>
<TAG_STATUS_FILE_1.0 xmlns="http://localhost/SR167"
                      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                      xsi:schemaLocation = "http://localhost/SR167
http://localhost/SR167/tagStatusFileSchema.xsd">
  <HEADER>
    <FILE_DATE_TIME>2006-07-27T00:10:10</FILE_DATE_TIME>
    <TOTAL_TAG_COUNT>2</TOTAL_TAG_COUNT>
    <TOTAL_TAG_COUNT_STATUS_0>0</TOTAL_TAG_COUNT_STATUS_0>
    <TOTAL_TAG_COUNT_STATUS_1>1</TOTAL_TAG_COUNT_STATUS_1>
    <TOTAL_TAG_COUNT_STATUS_2>1</TOTAL_TAG_COUNT_STATUS_2>
    <TOTAL_TAG_COUNT_STATUS_3>0</TOTAL_TAG_COUNT_STATUS_3>
    <TOTAL_TAG_COUNT_STATUS_4>0</TOTAL_TAG_COUNT_STATUS_4>
    <TOTAL_TAG_COUNT_STATUS_5>0</TOTAL_TAG_COUNT_STATUS_5>
  </HEADER>
  <DETAIL_DATA>
    <TAG>
      <RECORD_ID>1</RECORD_ID>
      <TAG_AGENCY_ID>218</TAG_AGENCY_ID>
      <TAG_PROTOCOL>SEGO</TAG_PROTOCOL>
      <TAG_REVENUE_TYPE>REVENUE</TAG_REVENUE_TYPE>
      <TAG_NUMBER>1012</TAG_NUMBER>
      <TAG_HW_SERIAL_NUMBER>010000DA00700112</TAG_HW_SERIAL_NUMBER>
      <TAG_CLASS>2</TAG_CLASS>
      <TAG_STATUS>1</TAG_STATUS>
    </TAG>
    <TAG>
      <RECORD_ID>2</RECORD_ID>
      <TAG_AGENCY_ID>219</TAG_AGENCY_ID>
      <TAG_PROTOCOL>CVISN</TAG_PROTOCOL>
      <TAG_REVENUE_TYPE>NONREVENUE</TAG_REVENUE_TYPE>
      <TAG_NUMBER>671861690</TAG_NUMBER>
      <TAG_HW_SERIAL_NUMBER></TAG_HW_SERIAL_NUMBER>
      <TAG_CLASS>2</TAG_CLASS>
      <TAG_STATUS>2</TAG_STATUS>
    </TAG>
  </DETAIL_DATA>
  <FOOTER>
  </FOOTER>
</TAG_STATUS_FILE_1.0>
```

3.2 Transaction File

3.2.1 Description

The Transaction File is created by the Facility and transmitted to the TCAAS for processing. It will contain all the required transaction data occurring at the Facility for tags belonging to the TCAAS so that TCAAS can apply the transactions against the appropriate customer account.

3.2.2 Naming Convention

[FAC_ID]_[FILE_DATE_TIME].FTXF

Example: For a Transaction File created by Facility 45 at 00:43:21 on November 31, 2006 the name of the file be 045_20061131004321.FTXF.

3.2.3 Layout

```
<TRANSACTION_FILE_1.0>
  <HEADER>
    <FAC_ID></FAC_ID>
    <FILE_ID></FILE_ID>
    <FILE_DATE_TIME></FILE_DATE_TIME>
    <TRANSACTION_COUNT></TRANSACTION_COUNT>
    <TRANSACTION_SUM></TRANSACTION_SUM>
  </HEADER>
  <DETAIL_DATA>
    <TRANSACTION>
      <RECORD_ID></RECORD_ID>
      <TRANSACTION_ID></TRANSACTION_ID>
      <TAG_AGENCY_ID></TAG_AGENCY_ID>
      <TAG_NUMBER></TAG_NUMBER>
      <ENTRY_TRANS_DATE_TIME></ENTRY_TRANS_DATE_TIME>
      <ENTRY_PLAZA_NO></ENTRY_PLAZA_NO>
      <ENTRY_LANE_NO></ENTRY_LANE_NO>
      <TX_CLASS></TX_CLASS>
      <AVC_CLASS></AVC_CLASS>
      <TAG_CLASS></TAG_CLASS>
      <TOLL></TOLL>
      <SPECIAL_RULE_APPLIED></SPECIAL_RULE_APPLIED>
      <TRIP_SPEED></TRIP_SPEED>
    </TRANSACTION>
  </DETAIL_DATA>
  <FOOTER>
  </FOOTER>
</TRANSACTION_FILE_1.0>
```

3.2.4 Data Elements

3.2.4.1 Top Level (Root) Tag

The file description used in the top level xml tag will be <TRANSACTION_FILE_x.x> where x.x is the version number of the ICD with which the file will comply.

3.2.4.2 Header

Each file will contain a header record containing data applicable to all detailed records and providing summary data to be used to verify file integrity. Listed below are the data elements for the <HEADER> record in a Transaction File.

Data Element Name	Mandatory
FAC_ID	Yes
FILE_ID	Yes
FILE_DATE_TIME	Yes
TRANSACTION_COUNT	Yes
TRANSACTION_SUM	Yes

3.2.4.3 Detail Data

Each transaction record will be contained within a <TRANSACTION> record. Listed below are the data elements for the <TRANSACTION> record.

Data Element Name	Mandatory
RECORD_ID	Yes
TRANSACTION_ID	Yes
TAG_AGENCY_ID	Yes
TAG_NUMBER	Yes
ENTRY_TRANS_DATE_TIME	Yes
ENTRY_PLAZA_NO	Yes
ENTRY_LANE_NO	Yes
TX_CLASS	Yes
AVC_CLASS	No
TAG_CLASS	No
TOLL	Yes
SPECIAL_RULE_APPLIED	Yes
TRIP_SPEED	No

3.2.4.4 Footer

Each file will contain a footer record with no required data elements. Future enhancements to this interface control document may necessitate the inclusion of tags in this record. However, for this version of the interface control document, no tags are required to be included in the footer record.

3.2.5 Example

```
<?xml version="1.0"?>
<TRANSACTION_FILE_1.0 xmlns="http://localhost/SR167"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation =
```

```
"http://localhost/SR167 http://localhost/SR167/transactionFileSchema.xsd">
  <HEADER>
    <FAC_ID>100</FAC_ID>
    <FILE_ID>987654321</FILE_ID>
    <FILE_DATE_TIME>2006-06-19T00:43:21</FILE_DATE_TIME>
    <TRANSACTION_COUNT>2</TRANSACTION_COUNT>
    <TRANSACTION_SUM>1.50</TRANSACTION_SUM>
  </HEADER>
  <DETAIL_DATA>
    <TRANSACTION>
      <RECORD_ID>1</RECORD_ID>
      <TRANSACTION_ID>123456788</TRANSACTION_ID>
      <TAG_AGENCY_ID>218</TAG_AGENCY_ID>
      <TAG_NUMBER>1012</TAG_NUMBER>
      <ENTRY_TRANS_DATE_TIME>2006-06-18T09:12:15</ENTRY_TRANS_DATE_TIME>
      <ENTRY_PLAZA_NO>102</ENTRY_PLAZA_NO>
      <ENTRY_LANE_NO>1</ENTRY_LANE_NO>
      <TX_CLASS>1</TX_CLASS>
      <AVC_CLASS>1</AVC_CLASS>
      <TAG_CLASS>1</TAG_CLASS>
      <TOLL>1.50</TOLL>
      <SPECIAL_RULE_APPLIED>SR167-Y</SPECIAL_RULE_APPLIED>
      <TRIP_SPEED>75</TRIP_SPEED>
    </TRANSACTION>
    <TRANSACTION>
      <RECORD_ID>2</RECORD_ID>
      <TRANSACTION_ID>123456789</TRANSACTION_ID>
      <TAG_AGENCY_ID>219</TAG_AGENCY_ID>
      <TAG_NUMBER>671861690</TAG_NUMBER>
      <ENTRY_TRANS_DATE_TIME>2006-06-18T09:35:58</ENTRY_TRANS_DATE_TIME>
      <ENTRY_PLAZA_NO>102</ENTRY_PLAZA_NO>
      <ENTRY_LANE_NO>1</ENTRY_LANE_NO>
      <TX_CLASS>1</TX_CLASS>
      <AVC_CLASS>1</AVC_CLASS>
      <TAG_CLASS>1</TAG_CLASS>
      <TOLL>0.00</TOLL>
      <SPECIAL_RULE_APPLIED>SR167-Y</SPECIAL_RULE_APPLIED>
      <TRIP_SPEED>32</TRIP_SPEED>
    </TRANSACTION>
  </DETAIL_DATA>
  <FOOTER>
    </FOOTER>
</TRANSACTION_FILE_1.0>
```

3.3 Transfer Complete File

3.3.1 Description

The Transfer Complete File is created by the originating organization immediately after it has completed the upload of a file to the FTP server. It will contain the name of the file and type of file for which the file transfer has just been completed. The existence of this file on the FTP server will indicate that the file recently transferred is ready to be validated by the receiving organization.

3.3.2 Naming Convention

[FILENAME_FILETYPE].CHK

Example 1: For a Tag Status file (20060619020005.ftsf) that has been recently transferred in its entirety to a Facility, the name of the transfer complete file will be 20060619020005_FTSF.CHK.

Example 2: For a Transaction File (045_20061131124321.ftxf) that has been recently transferred in its entirety to the TCAAS, the name of the transfer complete file will be 045_20061131124321_FTXF.CHK.

3.3.3 Layout

```
<TRANSFER_COMPLETE_1.0>
  <DETAIL_DATA>
    <FILE>
      <FILENAME></FILENAME>
      <FILETYPE></FILETYPE>
    </FILE>
  </DETAIL_DATA>
</TRANSFER_COMPLETE_1.0>
```

3.3.4 Data Elements

3.3.4.1 Top Level (Root) Tag

The file description used in the top level xml tag will be <TRANSFER_COMPLETE_x.x> where x.x is the version number of the ICD with which the file will comply.

3.3.4.2 Detail Data

The one file record in the transfer complete file will be contained within a <FILE> record. Listed below are the data elements for the <FILE> record.

Data Element Name	Mandatory
FILENAME	Yes
FILETYPE	Yes

3.3.5 Example

```
<?xml version="1.0"?>
<TRANSFER_COMPLETE_1.0 xmlns="http://localhost/SR167"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation =
"http://localhost/SR167 http://localhost/SR167/chkFileSchema.xsd">
  <DETAIL_DATA>
    <FILE>
      <FILENAME>045_20061131124321</FILENAME>
      <FILETYPE>FTXF</FILETYPE>
    </FILE>
  </DETAIL_DATA>
</TRANSFER_COMPLETE_1.0>
```

3.4 Acknowledgement File

3.4.1 Description

The Acknowledgement File is created by the receiving organization after it has validated another file such as the Tag Status File or Transaction File. It will contain the name of the file and type of file that has been validated. Additional return code data will also be included to indicate success or failures involved in validating the file and total number of records included in the file.

3.4.2 Naming Convention

[FROM_FACILITY_ID]_[FILENAME]_[FILETYPE]_[FILE_DATE_TIME].ACK

Example 1: For a Tag Status file (20060619020005.ftsf) that has been validated by a Facility (045) and the acknowledgement file was created at 02:34:01 on June 19, 2006, the name of the acknowledgement file will be 045_20060619020005_FTSF_20060619023401.ACK.

Example 2: For a Transaction File (045_20061131004321.ftxf) that has been validated by TCAAS and the acknowledgement file was created at 00:52:35 on November 31, 2006,, the name of the acknowledgement file will be 216_045_20061131004321_FTXF_20061131005235.ACK.

3.4.3 Layout

```
<ACKNOWLEDGEMENT_1.0>
<HEADER>
  <FILENAME></FILENAME>
  <FILETYPE></FILETYPE>
  <RETURN_CODE></RETURN_CODE>
  <NUM_RECORDS></NUM_RECORDS>
  <NUM_ISSUES></NUM_ISSUES>
</HEADER>
<DETAIL_DATA>
  <ERROR>
    <RECORD_ID></RECORD_ID>
    <DESCRIPTION></DESCRIPTION>
  </ERROR>
</DETAIL_DATA>
<FOOTER>
</FOOTER>
</ACKNOWLEDGEMENT_1.0>
```

3.4.4 Data Elements

3.4.4.1 Top Level (Root) Tag

The file description used in the top level xml tag will be <ACKNOWLEDGEMENT_x.x> where x.x is the version number of the ICD with which the file will comply.

3.4.4.2 Header

Each file will contain a header record containing summary data applicable to a particular . Listed below are the data elements for the <HEADER> record.

Data Element Name	Mandatory
FILENAME	Yes
FILETYPE	Yes
RETURN_CODE	Yes
NUM_RECORDS	Yes
NUM_ISSUES	Yes

3.4.4.3 Detail Data

Each error or informational warning will be contained within an <ISSUE> record. Listed below are the data elements for the <ISSUE> record.

Data Element Name	Mandatory
RECORD_ID	No
DESCRIPTION	No

3.4.4.4 Footer

Each file will contain a footer record with no required data elements. Future enhancements to this interface control document may necessitate the inclusion of tags in this record. However, for this version of the interface control document, no tags are required to be included in the footer record.

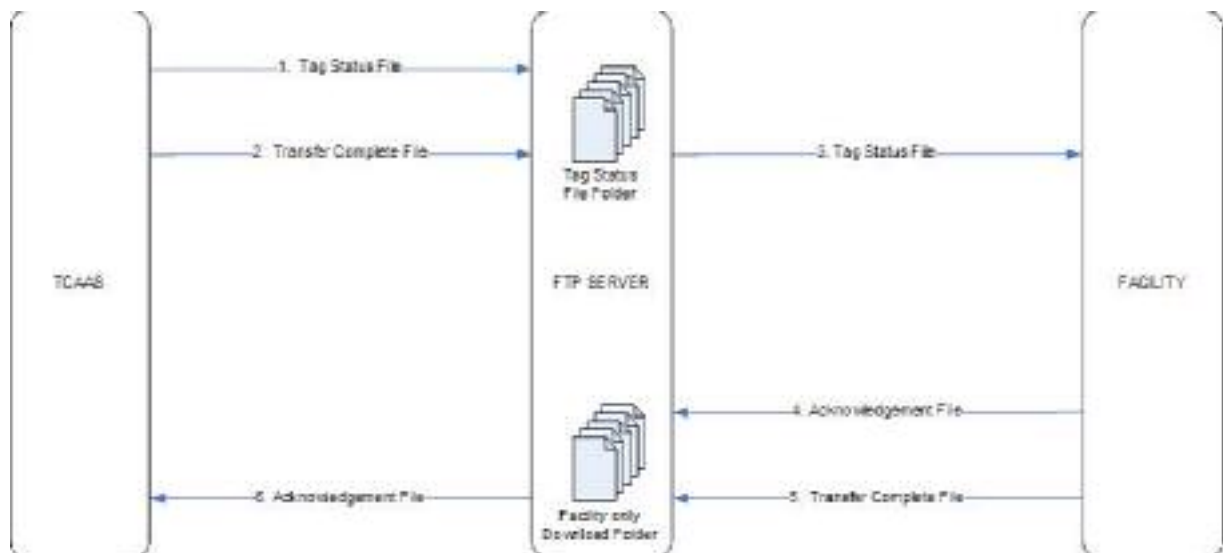
3.4.5 Example

```
<?xml version="1.0"?>
<ACKNOWLEDGEMENT_1.0 xmlns="http://localhost/SR167" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation = "http://localhost/SR167 http://localhost/SR167/ackFileSchema.xsd">
<HEADER>
  <FILENAME>20060619020005 </FILENAME>
  <FILETYPE>FTSF</FILETYPE>
  <RETURN_CODE>31</RETURN_CODE>
  <NUM_RECORDS>522</NUM_RECORDS>
  <NUM_ISSUES>1</NUM_ISSUES>
</HEADER>
<DETAIL_DATA>
  <ERROR>
    <RECORD_ID>1</RECORD_ID>
    <DESCRIPTION>TAG NUMBER FIELD FAILED VALIDATION</DESCRIPTION>
  </ERROR>
</DETAIL_DATA>
<FOOTER>
</FOOTER>
</ACKNOWLEDGEMENT_1.0>
```

4. FILE TRANSFER FLOW

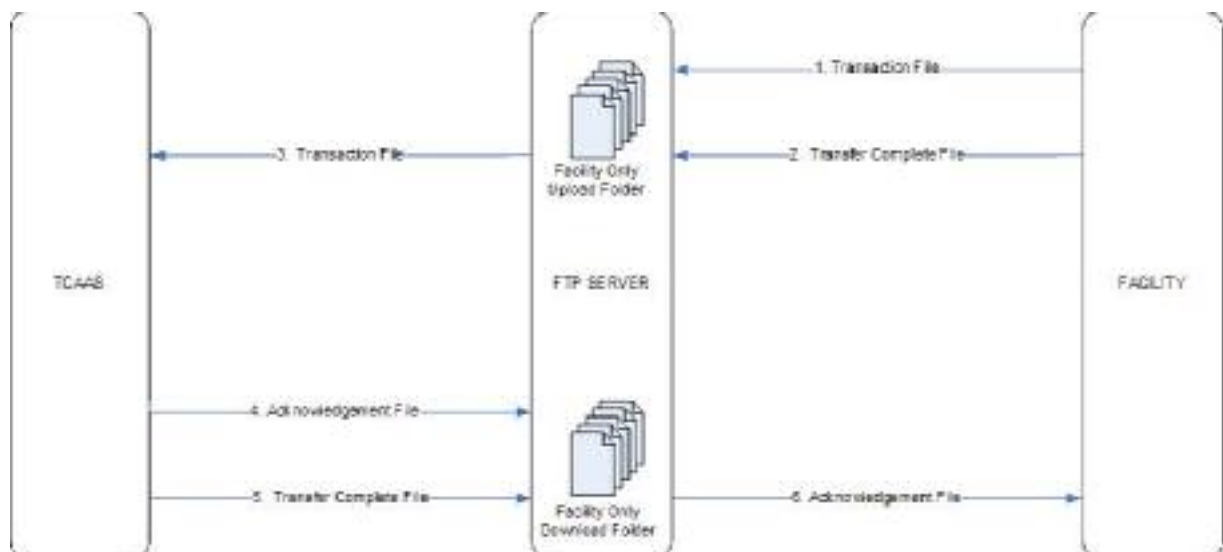
4.1 Tag Status Files

The process for transferring files Tag Status files is as follows:



4.2 Transaction Files

The process for transferring files Transaction files is as follows:



5. FAILURE PATH

The return code in the Acknowledgement file provides the organization that created the original file confirmation that the file has been successfully validated or an indication of the problem experienced by the receiving organization. The definition of the return codes and the actions to be taken when a return code is received are listed below.

Return Code	Description of problem	Actions to be taken
00	The file was successfully validated.	No further action necessary.
10	File cannot be decrypted.	<p>Verify originating organization can decrypt file. Resolve encryption problems at appropriate location.</p> <p>If the original file was encrypted badly then it can be deleted from FTP server and replaced by a correctly encrypted file with the same name.</p> <p>If the problem is related to the private key used for decryption, the original encrypted file will be revalidated and a new ACK file can be created.</p>
11	File cannot be uncompressed.	<p>Verify originating organization can decompress file. Resolve decompression at appropriate location.</p> <p>If the original file was compressed badly then it can be deleted from FTP server and replaced by a correctly compressed file with the same name.</p> <p>If the problem is related to the tool used for decompressing the file, the original compressed file will be revalidated and a new ACK file can be created.</p>
12	Badly formed XML file.	<p>The file will need to be recreated by the originating organization with correctly formed XML tags.</p> <p>The file can be resubmitted with the same name and File_ID value.</p>
13	Duplicate File. File with File_ID has already been validated.	Originating organization will need to create a new file with a non duplicate FILE_ID value.
20	Validation of the summary data in the header against the detailed record data was not successful. The file was not processed by TCAAS or the Facility.	<p>Originating organization will need to confirm the data in the original file is correct.</p> <p>Errors in the file can be corrected only if they relate to the summary data. In this case, the file can be resubmitted with the same name and File_ID value.</p> <p>If the errors are related to the detailed data, then the originating organization will be required to create a new file with different name and FILE_ID value.</p>
30	Transaction records contain invalid data. TCAAS will not post these to a customer account.	The Facility will be able to obtain the number of transactions not posted using the reports provided by TCAAS.
31	Tag records contain invalid data. Facility will not update status for tag record containing invalid data.	TCAAS will review tag status in original Tag Status File. If there is an error in the Tag Status File, a new file will be created and uploaded to the FTP server.
32	<p>Duplicate transaction.</p> <p>The file contains transactions with Transaction_ID values that have already been validated in another file.</p>	<p>Originating organization will need to correct duplicate Transaction_ID values. The file cannot be resubmitted. A new file with non duplicate Transaction_ID values will need to be created and uploaded to the FTP server.</p>

6. SECURITY

6.1 Introduction

The data exchanged between the TCAAS and facilities will be need to be secured from unauthorized access. This section of the ICD identifies the requirements for securing the data files from unauthorized access while in transit and in storage on an FTP server.

6.2 In Transit

To prevent unauthorized access to toll data via snooping or other methods designed to intercept data, all files except the Transfer Complete (CHK) files will be encrypted and decrypted using PGP encryption methodology based on shared and private keys. PGP version 9 will be the solution required to be used for key management and file encryption/decryption.

The following tables identifies which keys will be used for specific data

Data exchange	Encryption method	Decryption method
All files except Transaction Files	Shared key generated by TCAAS and distributed to all Facilities	Private key generated by TCAAS and distributed to all Facilities
Transaction Files	Unique shared key for specific facility generated by TCAAS	Unique private key for specific facility generated by TCAAS. Only distributed to specific facility.

These keys will be provided to the facilities on a CD 30 days prior to start of TCAAS-facility integration testing.

6.3 In Storage

6.3.1 FTP Server

The FTP server managed by TCAAS will include the following folder on the FTP server:

- Tag Status File Folder - contains files uploaded by TCAAS. TCAAS will have read/write/delete access, but will not have update access (to prevent file renaming). Access control will be restricted to read only permissions for all facilities.
- Facility Only Download Folder - contains files to be downloaded by only one Facility. There will be one of these folders for each Facility using TCAAS for CSC functions. Access control will be restricted to only one Facility with read only permissions. TCAAS will have read/write/delete access, but will not have update access (to prevent file renaming).
- Facility Only Upload Folder - contains files to be uploaded by only one Facility. There will be one of these folders for each Facility using TCAAS for CSC functions. Access control will be restricted to only one Facility with read/write permissions, but not update permissions (to prevent file renaming). TCAAS will have read/delete access permissions to this folder.

Internal, local user access to these folders will only be enabled for administrators and specific users with access to other secure toll data within the TCAAS network. Non Authorized users with access to the network on which the FTP server is located will not be given read permissions to any folders used by the FTP server or used to archive files exchanged between TCAAS and Facilities.

External Access to the login prompt for the FTP server will be restricted by IP address. If an IP address attempts to access the FTP server and it is not on the permitted list of IP addresses, access to the FTP server will not be allowed. A valid username/password combination will also be required to authenticate valid users and provide access to FTP folders.

7. DATA ELEMENTS

Data Element Name	Comments	XML Data Type	TCAAS DB Data Type																				
AVC_CLASS	Class of the vehicle according to the automatic vehicle classification system in the lane.	positiveInteger	SMALLINT, >0																				
DESCRIPTION	Description of error to assist Facility or TCAAS with debugging the problem.	string	VARCHAR(500)																				
ENTRY_LANE_NO	Lane number associated with transaction.	positiveInteger	SMALLINT, >0																				
ENTRY_PLAZA_NO	Plaza number associated with transaction.	positiveInteger	SMALLINT, >0																				
ENTRY_TRANS_DATE_TIME	YYYY-MM-DDThh:mm:ss.. Date/time transaction occurred in the lane.	dateTime	DATETIME																				
FAC_ID	Facility ID for remote locations using TCAAS for CSC functions.	positiveInteger	SMALLINT, >0																				
FILE_DATE_TIME	YYYY-MM-DDThh:mm:ss. Date file created.	dateTime	DATETIME																				
FILE_ID	Server generated transaction ID, which uniquely identifies the file.	positiveInteger	SMALLINT, >0																				
FILENAME	Name of file associated with Transfer Complete file.	string	VARCHAR(500)																				
FILETYPE	Type of file associated with Transfer Complete file.	string	VARCHAR(100)																				
NUM_RECORDS	Count of records (transactions or tag status) contained within the Acknowledgement file.	unsignedLong	SMALLINT, >0																				
NUM_ISSUES	Count of issues (errors or informational warnings) contained within the Acknowledgement file.	unsignedLong	SMALLINT, >0																				
RECORD_ID	Server generated record ID, which uniquely identifies a record within a specific file.	unsignedLong	SMALLINT, >0																				
RETURN_CODE	Issue (Error or informational warning) associated with the file. <table><thead><tr><th>CODE</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>00</td><td>The file was successfully validated.</td></tr><tr><td>10</td><td>File cannot be decrypted.</td></tr><tr><td>11</td><td>File cannot be uncompressed.</td></tr><tr><td>12</td><td>Badly formed XML file.</td></tr><tr><td>13</td><td>Duplicate File_ID</td></tr><tr><td>20</td><td>Summary data validation failed.</td></tr><tr><td>30</td><td>Transaction records contain invalid data.</td></tr><tr><td>31</td><td>Tag records contain invalid data.</td></tr><tr><td>32</td><td>Duplicate Transaction_ID</td></tr></tbody></table>	CODE	DESCRIPTION	00	The file was successfully validated.	10	File cannot be decrypted.	11	File cannot be uncompressed.	12	Badly formed XML file.	13	Duplicate File_ID	20	Summary data validation failed.	30	Transaction records contain invalid data.	31	Tag records contain invalid data.	32	Duplicate Transaction_ID	positiveInteger	SMALLINT, >0
CODE	DESCRIPTION																						
00	The file was successfully validated.																						
10	File cannot be decrypted.																						
11	File cannot be uncompressed.																						
12	Badly formed XML file.																						
13	Duplicate File_ID																						
20	Summary data validation failed.																						
30	Transaction records contain invalid data.																						
31	Tag records contain invalid data.																						
32	Duplicate Transaction_ID																						
SPECIAL_RULE_APPLIED	Notification if a special business rule was applied to the transaction. <table><thead><tr><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>SR167-Y</td><td>Toll reduced to lower fare</td></tr><tr><td>SR167-N</td><td>Toll not changed.</td></tr></tbody></table>	Value	Description	SR167-Y	Toll reduced to lower fare	SR167-N	Toll not changed.	string	VARCHAR(100)														
Value	Description																						
SR167-Y	Toll reduced to lower fare																						
SR167-N	Toll not changed.																						

Data Element Name	Comments	XML Data Type	TCAAS DB Data Type
TAG_AGENCY_ID	Agency ID associated with the Tag.	positiveInteger	SMALLINT, >0
TAG_CLASS	Class associated with the tag.	positiveInteger	SMALLINT, >0
TOTAL_TAG_COUNT_STATUS_0	Count of tags with status 0 in the Tag Status File.	unsignedLong	INT, >0
TOTAL_TAG_COUNT_STATUS_1	Count of tags with status 1 in the Tag Status File.	unsignedLong	INT, >0
TOTAL_TAG_COUNT_STATUS_2	Count of tags with status 2 in the Tag Status File.	unsignedLong	INT, >0
TOTAL_TAG_COUNT_STATUS_3	Count of tags with status 3 in the Tag Status File.	unsignedLong	INT, >0
TOTAL_TAG_COUNT_STATUS_4	Count of tags with status 4 in the Tag Status File.	unsignedLong	INT, >0
TOTAL_TAG_COUNT_STATUS_5	Count of tags with status 5 in the Tag Status File.	unsignedLong	INT, >0
TAG_HW_SERIAL_NUMBER	Hardware serial number associated with the tag. This is required for eGo Plus tags.	string	VARCHAR(32)
TAG_NUMBER	Serial number used to refer to the tag.	Long	INT, >0
TAG_PROTOCOL	Type of tag associated with number <u>VALUES</u> SEGO CVISN	string	VARCHAR(10)
TAG_REVENUE_TYPE	Revenue status of the Tag. (Applicable for all locations) <u>VALUES</u> REVENUE NONREVENUE	string	VARCHAR(10)
TAG_STATUS	<u>VALUE DESCRIPTION</u> 0 VALID 1 LOW BALANCE 2 INSUFFICIENT FUNDS 3 VERIFY – RESERVED FOR TRANSCORE USE 4 INVALID 5 LOST/STOLEN	positiveInteger	SMALLINT, >0
TOTAL_TAG_COUNT	Count of tags contained within the Tag status File	unsignedLong	INT, >0
TOLL	Amount of the Toll that is due to be deducted from a customer's account at the CSC.	positiveInteger	INT, >0
TRANSACTION_COUNT	Count of transactions contained within the Transaction file.	unsignedLong	INT, >0
TRANSACTION_ID	Server generated transaction ID, which uniquely identifies a transaction.	unsignedLong	INT, >0
TRANSACTION_SUM	Sum of Toll data elements for all transactions in the Transaction File.	positiveInteger	INT, >0
TRIP_SPEED	Speed of the vehicle as determined by the SR167 lane controller.	decimal	DECIMAL >0

Data Element Name	Comments	XML Data Type	TCAAS DB Data Type
TX_CLASS	Class associated with the transaction.	positiveInteger	SMALLINT, >0

Appendix A Tag Status File XML Schema

```

<xs:schema targetNamespace="http://localhost/SR167"
  xmlns:tsf="http://localhost/SR167"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
  <xs:simpleType name="tagStatusType">
    <xs:restriction base="xs:positiveInteger">
      <xs:pattern value="[0-5]" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="tagRevenueType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="REVENUE" />
      <xs:enumeration value="NONREVENUE" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="tagProtocolType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="SEGO" />
      <xs:enumeration value="CVISN" />
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="TAG_STATUS_FILE_1.0">
    <xs:complexType>
      <xs:sequence minOccurs="1" maxOccurs="1">
        <xs:element name="HEADER">
          <xs:complexType>
            <xs:sequence minOccurs="1" maxOccurs="1">
              <xs:element name="FILE_DATE_TIME" type="xs:dateTime"/>
              <xs:element name="TOTAL_TAG_COUNT" type="xs:unsignedLong"/>
              <xs:element name="TOTAL_TAG_COUNT_STATUS_0" type="xs:unsignedLong"/>
              <xs:element name="TOTAL_TAG_COUNT_STATUS_1" type="xs:unsignedLong"/>
              <xs:element name="TOTAL_TAG_COUNT_STATUS_2" type="xs:unsignedLong"/>
              <xs:element name="TOTAL_TAG_COUNT_STATUS_3" type="xs:unsignedLong"/>
              <xs:element name="TOTAL_TAG_COUNT_STATUS_4" type="xs:unsignedLong"/>
              <xs:element name="TOTAL_TAG_COUNT_STATUS_5" type="xs:unsignedLong"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="DETAIL_DATA">
          <xs:complexType>
            <xs:sequence minOccurs="0" maxOccurs="unbounded">
              <xs:element name="TAG">
                <xs:complexType>
                  <xs:sequence minOccurs="1" maxOccurs="1">
                    <xs:element name="RECORD_ID" type="xs:unsignedLong"/>
                    <xs:element name="TAG_AGENCY_ID" type="xs:positiveInteger"/>
                    <xs:element name="TAG_PROTOCOL" type="tsf:tagProtocolType"/>
                    <xs:element name="TAG_REVENUE_TYPE" type="tsf:tagRevenueType"/>
                    <xs:element name="TAG_NUMBER" type="xs:long"/>
                    <xs:element name="TAG_HW_SERIAL_NUMBER" type="xs:string" minOccurs="0"/>
                    <xs:element name="TAG_CLASS" type="xs:positiveInteger"/>
                    <xs:element name="TAG_STATUS" type="tsf:tagStatusType"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="FOOTER">
          <xs:complexType>
            <xs:sequence minOccurs="1" maxOccurs="1">
              <xs:element name="FOOTER_CONTENT" type="xs:string"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```


Appendix B Transaction File XML Schema

```

<xs:schema targetNamespace="http://localhost/SR167"
  xmlns:tsf="http://localhost/SR167"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
  <xs:simpleType name="specialRuleType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="SR167-Y"/>
      <xs:enumeration value="SR167-N"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="TRANSACTION_FILE_1.0">
    <xs:complexType>
      <xs:sequence minOccurs="1" maxOccurs="1">
        <xs:element name="HEADER">
          <xs:complexType>
            <xs:sequence minOccurs="1" maxOccurs="1">
              <xs:element name="FAC_ID" type="xs:positiveInteger"/>
              <xs:element name="FILE_ID" type="xs:positiveInteger"/>
              <xs:element name="FILE_DATE_TIME" type="xs:dateTime"/>
              <xs:element name="TRANSACTION_COUNT" type="xs:unsignedLong"/>
              <xs:element name="TRANSACTION_SUM" type="xs:decimal"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="DETAIL_DATA">
          <xs:complexType>
            <xs:sequence minOccurs="0" maxOccurs="unbounded">
              <xs:element name="TRANSACTION">
                <xs:complexType>
                  <xs:sequence minOccurs="1" maxOccurs="1">
                    <xs:element name="RECORD_ID" type="xs:unsignedLong"/>
                    <xs:element name="TRANSACTION_ID" type="xs:unsignedLong"/>
                    <xs:element name="TAG_AGENCY_ID" type="xs:positiveInteger"/>
                    <xs:element name="TAG_NUMBER" type="xs:long"/>
                    <xs:element name="ENTRY_TRANS_DATE_TIME" type="xs:dateTime"/>
                    <xs:element name="ENTRY_PLAZA_NO" type="xs:positiveInteger"/>
                    <xs:element name="ENTRY_LANE_NO" type="xs:positiveInteger"/>
                    <xs:element name="TX_CLASS" type="xs:positiveInteger"/>
                    <xs:element name="AVC_CLASS" type="xs:positiveInteger" minOccurs="0"/>
                    <xs:element name="TAG_CLASS" type="xs:positiveInteger" minOccurs="0"/>
                    <xs:element name="TOLL" type="xs:decimal"/>
                    <xs:element name="SPECIAL_RULE_APPLIED" type="tsf:specialRuleType"/>
                    <xs:element name="TRIP_SPEED" type="xs:decimal" minOccurs="0"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

Appendix C Transfer Complete File XML Schema

```
<xs:schema targetNamespace="http://localhost/SR167"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
<xs:element name="TRANSFER_COMPLETE_1.0">
  <xs:complexType>
    <xs:sequence minOccurs="1" maxOccurs="1">
      <xs:element name="DETAIL_DATA">
        <xs:complexType>
          <xs:sequence minOccurs="0" maxOccurs="1">
            <xs:element name="FILE">
              <xs:complexType>
                <xs:sequence minOccurs="1" maxOccurs="1">
                  <xs:element name="FILENAME" type="xs:string"/>
                  <xs:element name="FILETYPE" type="xs:string"/>
                </xs:sequence>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

Appendix D Acknowledgement File XML Schema

```
<xs:schema targetNamespace="http://localhost/SR167"
  xmlns:tsf="http://localhost/SR167"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
  <xs:simpleType name="ackReturnCode">
    <xs:restriction base="xs:integer">
      <xs:enumeration value="0"/>
      <xs:enumeration value="10"/>
      <xs:enumeration value="11"/>
      <xs:enumeration value="12"/>
      <xs:enumeration value="13"/>
      <xs:enumeration value="20"/>
      <xs:enumeration value="30"/>
      <xs:enumeration value="31"/>
      <xs:enumeration value="32"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="ACKNOWLEDGEMENT_1.0">
    <xs:complexType>
      <xs:sequence minOccurs="1" maxOccurs="1">
        <xs:element name="HEADER">
          <xs:complexType>
            <xs:sequence minOccurs="1" maxOccurs="1">
              <xs:element name="FILENAME" type="xs:string"/>
              <xs:element name="FILETYPE" type="xs:string"/>
              <xs:element name="RETURN_CODE" type="tsf:ackReturnCode"/>
              <xs:element name="NUM_RECORDS" type="xs:unsignedLong" minOccurs="0"/>
              <xs:element name="NUM_ISSUES" type="xs:unsignedLong" minOccurs="0"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="DETAIL_DATA">
          <xs:complexType>
            <xs:sequence minOccurs="0" maxOccurs="unbounded">
              <xs:element name="ERROR">
                <xs:complexType>
                  <xs:sequence minOccurs="1" maxOccurs="1">
                    <xs:element name="RECORD_ID" type="xs:unsignedLong"/>
                    <xs:element name="DESCRIPTION" type="xs:string"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="FOOTER">
          </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

APPENDIX 12 — FEDERAL REQUIREMENTS

Appendix 12.1: Form FHWA 1273 Terms and conditions (to be provided in an amendment)

Appendix 12.2: Other Federal Requirements (to be provided in an amendment)

APPENDIX 13 — CONTRACT